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(71) Applicant: CANON KABUSHIKI KAISHA  
 30-2, 3-chome, Shlimomaruko  
 Ohta-ku Tokyo(JP)  
  
 (72) Inventor: Yoshioka, Seishiro  
 2-5, Fujimino 1-chome  
 Hiratsuka-shi Kanagawa-ken(JP)  
 Inventor: Nomura, Ichiro  
 No.303,San'i Haitsu Chuorinkan 14-24,  
 Chourinkan  
 4-chome Yamato-shi Kanagawa-ken(JP)  
 Inventor: Suzuki, Hidetoshi  
 3-8-A202, Sakae-cho 2-chome  
 Atsugi-shi Kanagawa-ken(JP)  
 Inventor: Takeda, Toshihiko  
 21-1, Funabashi 2-chome  
 Setagaya-ku Tokyo(JP)  
 Inventor: Kaneko, Tetsuya  
 3-107, Shitanoya-cho Tsurumi-ku  
 Yokohama-shi Kanagawa-ken(JP)  
 Inventor: Banno, Yoshikazu  
 6-29, Mizuhiki 2-chome  
 Atsugi-shi Kanagawa-ken(JP)  
 Inventor: Yokono, Kojiro  
 2-14-308, Namiki 2-chome Kanazawa-ku  
 Yokohama-shi Kanagawa-ken(JP)

(74) Representative: Blumbach Weser Bergen  
 Kramer Zwirner Hoffmann Patentanwälte  
 Radeckestrasse 43  
 D-8000 München 60(DE)

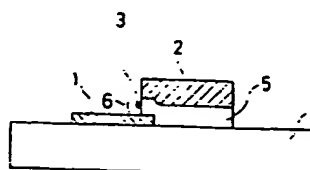
EP 0 299 461 A3

(54) Electron-emitting device.

(57) An electron-emitting device is provided which comprises a laminate comprising an insulating layer (5) held between a pair of electrodes (1,2) opposing each other, wherein an electron-emitting region (3) insulated from said electrodes is formed at a side end surface of the insulating layer (5) formed at the part at which the electrodes oppose each other, and electrons are emitted from said electron-emitting region (3) by applying a voltage between said elec-

trodes. A method for preparing the electron-emitting device is also provided.

FIG. 1





European Patent  
Office

# EUROPEAN SEARCH REPORT

Application number

DOCUMENTS CONSIDERED TO BE RELEVANT			EP 88111232.0
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
X	<u>SU - A - 855 782</u> (PETROV)	1, 28, 29, 30, 31 51	H 01 J 1/30 H 01 J 9/02
Y	& SOVIET INVENTIONS ILLUSTRATED, section E1, week E22, 14 July 1982 DERWENT PUBLICATIONS LTD., London, V05 * SU-855 782 (PETROV) *		
A		3, 4, 6, 7, 10, 13, 15, 16, 19, 32, 59	
D, X	M. HARTWELL "Strong electron emission from patterned tin-indium oxide thin films" 1975, IEEE Trans. ED Conf, Cambridge pages 519-521 * Page 519 *	3	
D, A		4, 7, 10, 13, 16, 19	
A	<u>DE - B2 - 2 413 942</u> (HITACHI) * Column 3, lines 4-7, 13-19; column 4, lines 1-18; claims 7, 8 *	4, 6, 10, 12, 18	H 01 J 1/00 H 01 J 3/00 H 01 J 9/00 H 01 J 19/00 H 01 J 37/00
A	PATENT ABSTRACTS OF JAPAN, unexamined applications, E field, vol. 5, no. 66, May 2, 1981 THE PATENT OFFICE JAPANESE GOVERNMENT page 164 E 55 * Kokai-no. 56-18 336	4, 10, 16	
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 25-09-1989	Examiner BRUNNER
<b>CATEGORY OF CITED DOCUMENTS</b>			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	(HITACHI SEISAKUSHO) * --- PATENT ABSTRACTS OF JAPAN, unexamined applications, E field, vol. 5, no. 133, August 25, 1981 THE PATENT OFFICE JAPANESE GOVERNMENT page 144 E 71 * Kokai-no. 56-71 239 (MATSUSHITA DENKO) * --- DE - B - 1 800 952 (SIEMENS) * Totality *	4, 6, 10, 12, 18, 59	
Y		51	
A		4, 5, 10-12, 17, 18, 65	
A	US - A - 3 278 789 (SHROFF) * Column 2, lines 34-39 *	4, 6, 10, 12, 18	TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
A	DE - B1 - 2 542 349 (SIEMENS) * Column 1, lines 54-58 *	4, 6, 10, 12, 18	
A	DE - B2 - 2 012 101 (MATSUSHITA ELECTRIC INDUSTRIAL) * Column 2, line 67 - column 3, line 20; column 4, line 64 - column 5, line 1 *	4, 6, 8- 10, 12, 18	
A	GB - A - 1 267 029 (PHILIPS) * Page 1, lines 35-48; claims *	4, 6, 7, 10, 12, 13, 15, 16, 19	
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 25-09-1989	Examiner BRUNNER
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
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A	EP - A2 - 0 073 031 (BATTELLE-INSTITUT) * Page 5, lines 8-17; claims 1-14 *	1, 6, 12, 18, 32, 61	
X	US - A - 3 735 186 (KLOPPER) * Column 1, line 42 - column 2, line 47; claims 1-6 *	49	
A		43, 44	
X	DE - A - 1 764 994 (WESTERN ELECTRIC) * Fig. 1; claims 1-4 *	61, 62	TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
A		64	
A	GB - A - 1 335 979 (GENERAL ELECTRIC) * Fig. 2; page 2, lines 76-111 *	5, 9, 61	
The present search report has been drawn up for all claims			
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